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(71) Applicant (for all designated States except US): **MON-SANTO TECHNOLOGY LLC** [US/US]; 800 North Lindbergh Boulevard, St. Louis, MO 63167 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BOGOSIAN, Greeg**

[US/US]; 374 Herworth Court, Clarkson Valley, MO 63005 (US). **O'NEIL, Julia, P.** [US/US]; 24 Hillard Road, Glendale, MO 63122 (US). **SMITH, Hong, Q.** [US/US]; 13501 Cedar Bridge Road, St. Louis, MO 63141 (US).

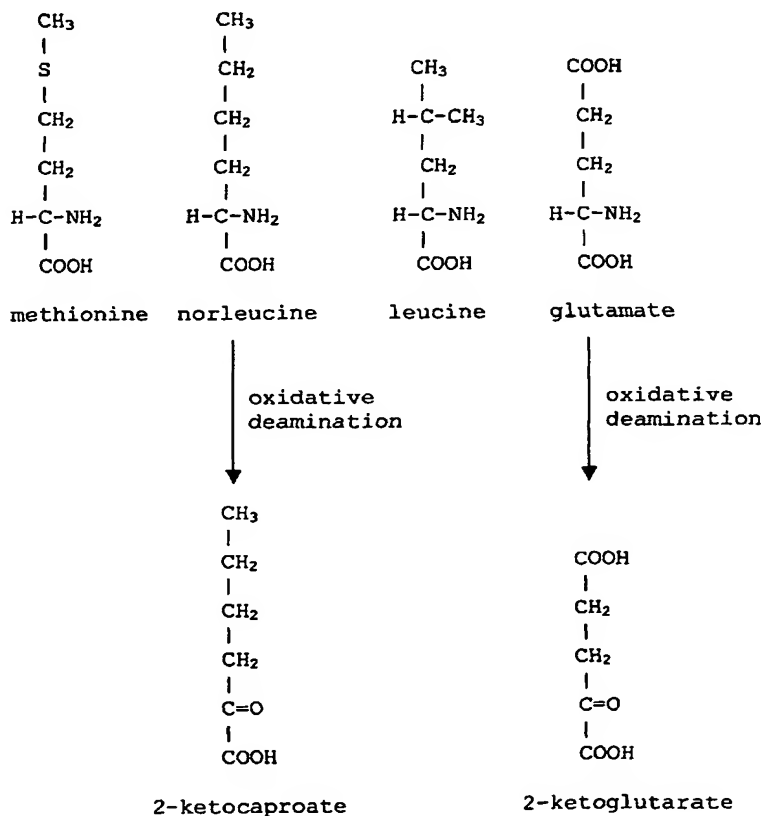
(74) Agent: **KAMMERER, Patricia, A.**; Howrey Simon Arnold & White, LLP, 2941 Fairview Park Drive Box 7, Falls Church, VA 22042 (US).

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(54) Title: PREVENTION OF INCORPORATION OF NON-STANDARD AMINO ACIDS INTO PROTEIN



(57) Abstract: The instant invention is drawn to the methods and compositions necessary to provide recombinant proteins with a substantially reduced or eliminated content of norleucine or other non-standard amino acids. Various embodiments of the invention provide for the substantial elimination of the incorporation of non-standard amino acids into recombinant proteins by the co-expression or enhanced expression of a protein (or the enzymatically active portion thereof) capable of degrading norleucine or other non-standard amino acids, including norvaline, beta-methylnorleucine, and homoisoleucine. In certain particular embodiments of the invention, the norleucine is degraded by a glutamate dehydrogenase, a leucine dehydrogenase, a valine dehydrogenase, a phenylalanine dehydrogenase, a glutamate/leucine/phenylalanine/valine dehydrogenase, or an opine dehydrogenase. Also provided are the cells and DNA constructs for carrying out these methods.



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